

# *A Moment of Truth*

## *The Function of Poetry in the Age of Science*

*A talk at "Imagine 7" Retreat in Toronto, June 2, 2017*

What could be more appropriate than to start an inquiry into the function of poetry at an *ImagineNoGod* Conference with a quote from the Romantic poet, Percy B. Shelley who, as a student, was expelled from Oxford for writing and publishing a pamphlet entitled "The Necessity of Atheism" (1811)! As an adult, he married Mary Wollstonecraft, whose mother authored what is perhaps the first feminist manifesto in the world, *A Vindication of the Rights of Women* (1792). On these two counts alone, Shelley would feel quite comfortable among us humanists here today.

In 1821, he wrote a spirited *Defence of Poetry* (publ. in 1840), in response to a witty, tongue-in-cheek attack on the poets and poetry by his friend and fellow-poet Thomas Love Peacock. In his essay, "Four Ages of Poetry", published anonymously in 1820, Peacock takes the poets of his "age of brass" to task for being "semi-barbarians in a civilized community...". For writing "as if there were no such things in existence as mathematicians, astronomers, chemists..." etc., he calls them "drivellers and mountebanks" who do not merit the attention of any reader.

Shelley, in his response, offers a view of poetry and poets that is almost diametrically opposed. I can see Peacock and Shelley chuckling over a beer in the local pub as they contrast the "dilettantes and incompetents in an art that makes the highest demands on craftsmanship" with the serious "poets, or those who imagine and express [the] indestructible order" of nature. For Shelley, serious poets "are not only the authors of language and of music...: they are [also] the institutors of laws, and the founders of civil society, and the inventors of the arts of life, and the teachers, who draw into a certain propinquity with the beautiful and the true that partial apprehension of the agencies of the invisible world which is called religion."

Shelley's extravagant claims are not likely to find many supporters among humanists today who, by and large, prefer to look to scientists as those who

"imagine and express the indestructible order of nature." I'm going to try and demonstrate that Shelley's view of poets as the "unacknowledged legislators of the world" is valid as a metaphor. So is Peacock's scorning as "drivellers and mountebanks" those who betray their calling. The two viewpoints describe the perennial differences between incompetence and mastery, mediocrity and genius, that characterize poets and indeed the practitioners of all the arts, even of all human endeavour.

Poetry as a verbal art can look back on more than five thousand years of successful practice in its written form, and in its oral form reaches beyond the Neolithic revolution ten thousand years ago. Dealing directly with human experience, poetry cannot but respond to the changing social and political circumstances in the evolution of human civilization. In our own time, ironically, precisely when its contributions are most urgently needed, poetry seems to have become redundant—except as a form of entertainment.

In the 21<sup>st</sup> century, poets have become an endangered species. For several years, as editor of *Humanist Perspectives*, I ran a feature called "A Poet's Voice" in every issue of the magazine and invited poets to present their work and explain why they wrote poetry. In all the years we published this feature, there was never a single response to it by any of our humanist readers, though we received plenty of 'letters to the editor' on the discursive, political contents of each issue. Not surprisingly, *Humanist Perspectives* dropped "A Poet's Voice" when I resigned as editor.

Humanists are not alone in their indifference to poetry. Where once poetry readings attracted substantial audiences eager to listen to a single poet for an hour or two, today most members of the audience are poets themselves. Poets have become their own audience, and they are lucky if they are allowed to read for more than ten or fifteen minutes at a time. And whereas readings used to take place in auditoria that provided an environment enabling a serious encounter with the subtleties and complexities of a poem, today they occur in bistros and cafés against the background of clattering dishes, the chatter of indifferent patrons, the rumble and roar of traffic outside, and often in between musical numbers of pop music, played at decibels that guarantee early deafness as they beat the mind to a pulp. Fire engines and police sirens are at home in such an environment, poems are not.

All this is but the proverbial tip of the iceberg. The publication of poetry books, where the sale of 500 copies of a collection constitutes a bestseller, faces the same dilemma and confirms the rapidly declining role of poetry in our culture. This lamentable situation is one of a multitude of developments symptomatic of what cyclical historians and philosophers like Giambattista Vico, Oswald Spengler and Arnold Toynbee have called 'the decline of the west'.

To see history as a cyclical process is merely the acknowledgment that, as complex interactive systems, civilizations are organic entities that are born and must eventually die. From the ashes rise new civilizations. Our civilization was born from the demise of antiquity and has now reached the nadir of its cycle. In a universe ruled by the law of entropy, this is the inescapable pattern of all things—nations, individuals, species, civilizations, all come and go in a chain of endless transformations. We happen to be living through the demise of Western civilization when, in the words of the poet William Butler Yeats:

*Turning and turning in the widening gyre  
The falcon cannot hear the falconer;  
Things fall apart; the centre cannot hold;  
Mere anarchy is loosed upon the world,  
The blood-dimmed tide is loosed, and everywhere  
The ceremony of innocence is drowned;  
The best lack all conviction, while the worst  
Are full of passionate intensity.*

Yeats wrote "The Second Coming" in 1919, almost a hundred years ago; yet I know of no more perspicacious description of the state of the world today. And that is not because poets are prophets, but because they face the events of their time honestly and without subterfuge, while the general public lives a century in the past. Poetry is the writing on the wall.

I'm using the term 'poetry' here to refer to its lyrical and epic manifestations. My arguments apply with some slight modifications to other literary forms. The novel, after all, is essentially epic poetry transformed to deal with a bourgeois world; and that drama is poetry, playwrights like Sophocles and Shakespeare have amply demonstrated. But novels and plays employ different strategies, involving plot and characterization. I'm going to focus on the poem as a verbal construct using rhythms, images and tone in the imaginative employment of such

literary devices as metaphor, simile, symbol, metonymy, onomatopoeia, synesthesia, and hyperbole to evoke an experience that engages the whole of a reader or listener, his or her thoughts, emotions, memories, histories. As the Welsh poet Dylan Thomas famously put it:

*Poetry is what in a poem makes you laugh, cry, prickle, be silent, makes your toe nails twinkle, makes you want to do this or that or nothing, makes you know that you are alone in the unknown world, that your bliss and suffering is forever shared and forever all your own.* ("A few Words of a Kind", a talk at M.I.T. on March 7, 1952)

"What in a poem makes you laugh, cry..." are words—words carrying and juggling meanings, alluding to hidden connections and contradictions, triggering associations and conjuring images, words arranged in rhythmic patterns that resonate with memories and emotions. It all starts with words. That is why Shelley calls poets "the authors of language". Poets are utterly dependent on finding and using the right word. *Le mot juste* is their commitment and obsession. Their laboratory is life itself where they search for the word or phrase that most truthfully captures and communicates the complexity of experience. They do so with the same assiduous exactitude with which scientists labour to bring their theories into accord with observation.

Poets are the supreme custodians and keepers of language, and since language is what makes us human, poets are the guardians of our humanity. Our fellow creatures on this planet have ways of communicating too, but their grunts, growls and whistles have never crossed the watershed between their concern with food, fear and fornication and our search for understanding and meaning in the world we inhabit. In the process, humans have reached a level of communication that is providing us with knowledge and insight into the universe that is nothing short of miraculous Remember that we are essentially walking bags filled with ten gallons of water in which a handful of chemicals are dissolved—and here we go telling each other how everything was born from nothing 13.7 billion years ago, how one trillionth of a trillionth of a trillionth of a second later our universe was the size of an infinitesimal dot that began to inflate faster than the speed of light... and so on and so forth. These mind-blowing insights into the origins of the universe, of our planet and the evolution of life on it are the direct result of our acquiring language and with it the ability to abstract, question, search, and think.

Language is the measure of our humanity. As nations and as individuals, we are as rich or poor, true or false, base or honorable as our language. In their care and nurture of language, poets carry out the fundamental mission of words, which is to name a thing, an event, an idea, an emotion precisely and without equivocation for what it is. This mission is the foundation of civilization, and its success depends on the honesty and truthfulness with which speaker and writer use language to communicate with us. The health, happiness and evolution of society depend on it.

So you'd expect humanity to be totally committed to the authentic use of language. The reality is that there has probably never been a time when language was as systematically abused, degraded and perverted as it is today. More energy, skill and money are employed in using words to deceive and manipulate than in their honest use. In politics, advertising, insurance, the media, religion and the legal profession, to name but the most notorious, whole armies of people derive their livelihood from abusing words to mislead, misrepresent, misinform, distort, and lie.

Politicians, for instance, speak the word 'democracy' with sanctimonious solemnity without the slightest intention of instituting the 'rule of the people, by the people and for the people', as our newly elected Prime Minister demonstrated very recently when he reneged on his promise to end the undemocratic first-past-the-post electoral practice and replace it with proportional representation. Why tinker with a comfortable set-up which guarantees majority rule with minority support to the Conservatives and the Liberals at alternating sessions while leaving the real power in the hand of the international corporations that finance and control them? If we used language correctly we would own up to the fact that we live in a plutocracy, not a democracy.

Politicians may lead the way in the perversion of language, but their followers are legion. The mass media have become propaganda machines promoting the agenda of the establishment with shameless verbal trickery designed to conceal the truth from us and by disinformation to lead us to false conclusions that serve their sole and singular purpose: the maximization of profits. I recommend *Manufacturing Consent* by Edward Herman and Noam Chomsky if you think I'm exaggerating.



As for the legal profession, the other day, a lawyer gave it away in an unguarded moment. Asked by an interviewer how laws are written, he replied: “we write the laws to suit ourselves.” That’s why laws are written in language so convoluted and verbose that even educated members of the public must call upon a professional to understand and exercise their legal and human rights. And that suits the experts because it justifies a fee, and justice is dispensed accordingly. If you can afford the appropriately large fee, you can hire a team of lawyers skilled at manipulating witnesses and twisting the letter of the law until it comes to mean something other than what it was intended to mean. So the guilty walk free and you have replaced the rule of law by the rule of lawyers.

I daresay most lawyers, journalists, and politicians are honourable women and men, but they are not usually in positions of power. Nowhere is this more evident than in the issues surrounding climate change. Massive disinformation about it has been spread for decades by the media, by politicians, by the PR spin doctors in oil companies and car manufacturers, even by some scientists. The fruit of this perversion of language are the disasters climate change has now begun to visit on us.

We haven’t talked yet about the digital media and their negative effects on the use of language, nor about the absurd verbal sophistries of religions determined to perpetuate their version of mental infantilism, nor the creeping language fascism implicit in political correctness, nor the systematic militarization of our society by elevating “our men and women in uniform” to the status of “heroes”. The recent charade about Vimy Ridge is a perfect example of the abuse of language to manipulate public opinion. Soldiers are trained killers, and I wonder with the American poet e. e. cummings:

*why must itself up every of a park  
anus stick some quote statue unquote to  
prove that a hero equals any jerk  
who was afraid to dare to answer “no”?  
quote citizens unquote might otherwise forget  
...that if the quote state unquote says “kill”  
killing is an act of Christian love... (“why must itself...” 1923?).*

The corruption of language goes hand in hand with the corrosion of trust, and trust is the foundation of civil society. Without it society collapses into a

maelstrom of mendacities, falsehoods and fabrications. By insisting on using language honestly, concretely, correctly and truthfully, poets become the mainstay of civilization, and that goes a long way towards justifying Shelley's claim that poets are "the unacknowledged legislators of the world."

Besides employing the right word, there is the manner in which poets use language. The how is as important as the what of speaking, when it comes to poetry. Let me give you an example. Here is the poet W. H. Auden telling us about someone taking a stroll one evening in the city of London, England:

*As I walked out one evening,  
Walking down Bristol street,  
The crowds upon the pavement  
Were fields of harvest wheat.*

*And down by the brimming river,  
I heard a lover sing  
Under a bridge of the railway:  
'Love has no ending.*

*I'll love you, dear, I'll love you  
Till Africa and China meet,  
Till the river jumps over the mountain  
And the salmon sing in the street.*

*I'll love you till the ocean  
Is folded and hung up to dry  
And the seven stars go squawking  
Like geese about the sky.*

*The years shall run like rabbits  
For in my arms I hold  
The Flower of the Ages,  
And the first love of the world.'*

The plain language with which the poem begins belies the experiences to come, but they are foreshadowed in the iambic rhythm of the lines. As **I** walked **out** one **evening**... we hear the walker put one foot ahead of another. Then the

startling metaphor of the crowds in the street as *fields of harvest wheat*. Because we know people are not wheat, the metaphor catapults us into the mind of the person walking down Bristol Street. *Fields of harvest wheat* suggest fruitfulness, golden light, life-affirming promise. Auden involves readers emotionally in the experience he recounts by inviting them to inject the metaphor with their own personal experience. Thus they are subtly lured into seeing the world through the eyes of the poem's protagonist.

That's how they come upon the lovers, perhaps exchanging caresses in the shadow of the railway bridge. Again Auden resorts to metaphor: he hears *a lover sing*. It's highly unlikely that the lovers in the dark underpass actually break into song as they fondle and kiss each other. But the metaphor points to what is happening in the innermost heart of the lovers—the ecstasy of being united in love and the sense of that love lasting forever. That's why the lover sings: *Love has no ending. / ... I'll love you / till China and Africa meet*. Even if earth's tectonic plates were moving in a way that might reunite Africa and China, the lovers could be sure their love would last a few hundred million years. Auden here uses another powerful poetic device: hyperbole. Precisely because such an exaggerated statement is not to be taken literally, the readers' imagination is challenged and they are drawn into the emotions of the lovers which reach a crescendo in the promise that "*I'll love you / till the ocean is folded and hung up to dry*". In this heaven-storming image we are swept up in the emotion of a love that all life on our planet and we come to feel the yearning for this love to be eternal.

The scientifically minded may be inclined to dismiss this sort of language as romantic rubbish. Oceans are not bed-sheets to be hung out to dry. Yet it is through this combination of rhythm, image and metaphor that language penetrates the deepest layers of our inner being. Far from attempting to embellish reality romantically, Auden aims at revealing the harsh truth of what it means to be human. The persona of the poem on his walk down Bristol Street is suddenly confronted with the mortality of all things. It ambushes him in an abrupt shift in image, tone and colour:

*The years shall run like rabbits  
For in my arms I hold  
The Flower of the Ages,  
And the first love of the world.'*



*But all the clocks in the city  
Began to whirr and chime:  
'O let not Time deceive you,  
you cannot conquer Time.*

*In the burrows of the Nightmare  
Where justice naked is,  
Time watches from the shadow  
And coughs when you would kiss.*

*In headaches and in worry  
Vaguely life leaks away  
And Time will have his fancy  
To-morrow or to-day.'*

We are forced to face the brutality of the world. The poet does not lecture us; he plunges us into the river of experience so that we come to feel with our whole being that the mind can conceive of perfect, timeless states of existence which the flesh cannot deliver. The joy of our yearning is also the source of our sorrow and pain. The poem makes us know and accept the paradox. The triumph of the imagination at once intensifies and mitigates the agony of our mortality, and thereby opens a way towards reconciliation. And here it is, at the end of the poem:

*'O look, look in the mirror,  
O look in your distress:  
Life remains a blessing  
Although you cannot bless.*

*O stand, stand at the window  
As the tears scald and start;  
You shall love your crooked neighbor  
With your crooked heart.'*

*It was late, late in the evening.  
The lovers, they were gone;  
The clocks had ceased their chiming,  
And the deep river ran on.*

What an evening walk by the Thames! We have travelled the emotional highs and lows of being human, and found solace in knowing that our “bliss and suffering is forever shared and forever all [our] own.” (Thomas) The poem has liberated us from suppressed emotions about the tragedy at the core of existence. The reader is receptive now for the crucial insight that love and life are *a blessing*, even though our hearts are *crooked* and we are not a blessing on the world. With our spirits lifted and enriched, we are able to continue on our arduous path with a lighter heart and a more serene spirit as *the deep river* of time runs on.

In the age of science, such emotional and mental reassurance is more important than ever. Over the past century or two, science has flung open windows that have provided us with mind-boggling vistas of the universe and with astounding insights into its complexities. The scientific method of investigating our world has yielded much that is beautiful and awe-inspiring, but just as much that is terrifying: the pretty night sky with its myriad stars, for instance, turns out to be an incomprehensibly vast, empty space with temperatures close to absolute zero, and the stars are not the twinkling little lanterns of our nursery but a bunch of gigantic nuclear holocausts that, if you came within a million miles of any of them, would instantly incinerate you.

As if that weren't enough, we learn that each of us is a walking community of around a hundred trillion microbes; that our great-great-great... grandparents a few million generations ago were worms, and that dung beetles and bull-frogs are our cousins; that the species *Homo sapiens* itself will vanish in short order just as more than 99% of all life forms that ever existed on earth have become extinct or have evolved into other life forms that no longer resemble their ancient kin.

As we walk through the lovely tranquility of an autumnal forest, science tells us, we are actually wading through a murderous battlefield where all animals and plants are ready to kill mercilessly in obedience to nature's existential command: “eat and be eaten!” Our whole planet is a recycling plant. If you had ears to hear, they'd be filled with the cries of the victims, too small for you to see being crushed and mashed, or impaled in their hiding-places under the bark of your beautiful maple tree or speared in the canopy by a passing bird. Nature conducts what Thomas Hobbes' called a *bellum omnium contra omnes*.

This wholesale butchery takes place continuously on a speck of dust we call earth, spinning around one of a hundred billion stars, a mediocre one in an odd corner of one of a hundred billion galaxies, all of them flying apart at rapidly increasing speeds heading for extinction. And this whole spectacular charade has neither sense nor meaning nor purpose. Such is the reality of the world that science has uncovered. If you don't find this demoralizing and terrifying, you haven't woken up yet.

Perhaps the first and most shocking blow was dealt our psyche by Charles Darwin who pricked the balloon of our delusions of grandeur by showing how all life evolves by the merciless process of natural selection. His insights ushered in a somber *fin de siècle* pessimism in Europe, as foreshadowed in Matthew Arnold's "Dover Beach" (1867), written less than ten years after the publication of *The Origin of Species* (1859):

*Ah, love, let us be true  
To one another! For the world, which seems  
To lie before us like a land of dreams,  
So various, so beautiful, so new,  
Hath really neither joy, nor love, nor light,  
Nor certitude, nor peace, nor help for pain;  
And we are here as on a darkling plain  
Swept with confused alarms of struggle and flight,  
Where ignorant armies clash by night.*

Since then, relativity and quantum mechanics have further dehumanized the world we live in. The scientists' grim picture of reality amounts to a kind of knowledge terrorism, and since the grimness is endemic, fright and flight have become permanent features of our times. Charlatans and swindlers, obsessed with the pursuit of power and money, take advantage of it, while ordinary people live in permanent fear of nuclear war and environmental catastrophes—to say nothing of earthquakes, volcanoes and asteroids.

Since neither the individual life nor the universe have any meaning, people no longer know who they are or what they should do; our educational institutions are at sixes and sevens about what to prepare young people for; a growing number especially of young people resort to drugs to escape reality. A whole

industry of escapism has grown up that engulfs us all: 24-hour TV theatrics and hype; hysterical onlooker sports events; mindless global tourism—everyone is running, running, running... away from the truth. The final escape is suicide, and suicide rates are rising steadily.

But painful and tragic contradictions will always be part of our short journey here on earth, and there is no getting away from them. Space travel and emigration to planet Mars won't solve our problems: our despair will be waiting to welcome us as we touch down at the landing-site.

Science makes us aware of our irrelevance to the universe and thereby contributes to our dilemma. It operates analytically and rationally, whereas human beings live and “think” emotionally. In the 18<sup>th</sup> century, the Swedish botanist Carl Linnaeus, in a gesture of taxonomic self-aggrandizement, named human beings *Homo sapiens*. *Sapientia* is Latin for ‘wisdom’. Can you call an animal ‘wise’ that engages perpetually in episodes of mutual slaughter and celebrates them as heroic? And can a species be called ‘wise’ that knowingly destroys, as we are blithely doing today, the habitat on which its survival depends? Would not *Homo stupidus* be a more appropriate taxonomic designation?

We are not an *animal rationale*, notwithstanding René Descartes’ dictum: “*Cogito, ergo sum*”. The human genome differs from that of chimpanzees by about 1.2% of our DNA. In other words, we are 98.8% animal, and like animals we are driven by instinct and emotion. We rationalize what we do after the fact. At best, we are an *animal emotionale*. Our adrenalin system, which catapults us into instant postures of defense and aggression when faced with a concrete threat, remains inert to rational arguments and threats of catastrophes projected to overwhelm us in the future. Only when the inhabitants of the world’s cities are wading in water above their hips will the adrenalin response be triggered in the citizenry, and then it’ll be too late to arrest climate change.

So what is to be done? Well, political practices have to become truly democratic, economic systems fair and equitable, and the barbarous pursuit of money has to be replaced by values befitting a cultured, civilized society. How do we achieve that? There are a growing number of voices around the globe demanding we move in that direction, but for them to reach the critical mass that will tip the scales we need to move beyond the flight response and conquer our existential angst and hopelessness. We must accept that ultimately reality is beyond our

control and learn to incorporate its vastness, complexity, incomprehensibility and indifference in our lives.

Reconciliation with the brutal facts of the universe, and recovery of hope in the face of them, cannot be accomplished with theories and arguments alone. This is why we need poetry. A poem addresses the reader in the totality of his or her being—mind, heart, guts and pimples. Its strategies serve the creation of a total experience in which the ambiguities, contradictions and paradoxes of the world are reconciled. In its synthesis of the heterogeneous, the poem makes the reader whole again. A poem does not argue; it embodies truth and imparts emotional solace and security to the reader willing to give it the attention and the intimacy of a lover.

In poetry, the experience of transitoriness, fragility and uncertainty are not a source of gloom but a force of affirmation. It transcends despair to make us know how precious life is and how glorious the world. In the experience of a poem, to quote Yeats once more, *All [is] changed, changed utterly / A terrible beauty is born*. (“Easter 1916”) It is similar to a near-death experience from which people often emerge with a heightened sense of the joys and splendours of existence. In this holistic state, the mind can find new meaning in life, bringing reason into harmony with our sensations and emotions.

Poetry cannot save humanity. For one thing, not all poems embody the complex truth of human existence; for another, music and painting too address us as primarily emotional beings. All the arts offer us the experience of a world both glorious and sorrowful, meaningless and fulfilling. But poetry includes what is most human about us—language—language honed to clarity and integrity. A society that neglects and degrades poetry will inevitably plunge into a state of chaos and despair because the irresolvable contradictions of the world will overwhelm its people.

Once upon a time, religion enabled people to endure and be reconciled to the miseries of life. It did so by engaging the arts in promoting its dogma. Imagine a family of illiterate peasants in the Middle Ages leaving their gloomy and stinking straw-thatched cottage, often shared with cows and pigs, to attend church on a Sunday morning: titanic Gothic architecture raised their eyes to heaven; burning candles and intoxicating incense filled a vast, mysterious space illumined by stained-glass windows and adorned with colourful paintings and



icons; then the reading of scripture, the singing of hymns and the participation in various rituals shared by the community of their neighbours. All this conveyed a sense of the sacred and raised their spirits from the sufferings of their daily lives to the knowledge of a greater glory.

The age of supernatural deities and their nursery tales about creation and life-after-death is over and done with. The majority of people in the Western world no longer believe in an almighty god, though they continue with quasi-religious practices because of the emotional security and solace they derive from their community. As the Ottawa Unitarian Congregation puts it: “We come together to nurture meaning, hope, and reverence for the earth.” In the search for meaning and the nurture of hope the arts play a central role, and humanists would do well to include them in a meaningful way in their program, if they ever want to become a global movement and not just a debating society.

With its uncompromising pursuit of truth science plays a central role in the new civilization that will rise from the ruins of ours. It deprives us of the comforts of illusions, but it also offers us models of the universe that are more exciting and more magnificent than anything anyone could have imagined even a couple of centuries ago. The tales religions tell pale by the side of the stories scientists tell about evolution, black holes, relativity, quantum mechanics and multiverses. The work of true poets today must employ the creative ambiguity of a poem to embody the discoveries of modern science in our experience of nature.

Lack of understanding scientific models of reality is no excuse for failing to do so. In recent decades a number of distinguished scientists have made it their business to communicate the advances in their fields to us amateurs at a level that respects both the integrity of their disciplines and the intelligence of their readers. Their dedication and enthusiasm have made it possible for us to join them in their imaginative pursuit of the secrets of the world. We are indeed fortunate to have two of them with us today and tomorrow—Richard Dawkins and Lawrence Krauss—and we’re all looking forward to what they are going to share with us. When they do, they will no doubt borrow some of the strategies poets use. Much scientific calculation is of such enormity that the imagination can grasp it only in a simile. When Richard Dawkins, who speaks of the “poetic magic of reality” in one of his books (*The Magic of Reality*), explains (p. 88) that, if we imagine the proton nucleus of the crystal diamond atom to be a soccer ball, the electrons circling at a distance of several kilometers are smaller than

gnats, and the nucleus of the nearest neighbouring atom is 15 km away, we begin to get a sense of what scientists mean by empty space.

There is a profound kinship between scientists and poets in their attempts to understand reality. Starting in the imagination, both pursue a different but legitimate path of knowing. Scientists like poets start their research by asking what if, followed by an imagined proposition: *What would happen to light if spacetime were curved*, for instance. From there, they develop a hypothesis they then put to the test of experimentation and observation before it is accepted as true.

We need to be circumspect with the word 'truth'. How reliable is scientific 'truth' when, in fact, 95% of reality is dark matter and dark energy? The darkness, surely, is in our brains, not in the world around us. Why should that surprise us, considering that all verification is dependent on a set of five senses that evolved over billions of years to serve the bearer in the battle to survive and to reproduce? Einstein himself compared the scientist to "*a man trying to understand the mechanism of a closed watch... he may never be quite sure his picture [of the inner workings of the watch] is the only one which could explain his observations*" because "*he will never be able to compare his picture with the real mechanism.*" (Infeld & Einstein, *The Evolution of Physics*, p. 31)

To be sure, the scientific method in which reason aligns itself with experiment and observation is the only way we know to formulate verifiable explanations of natural phenomena. Uncertain as we shall remain, something fundamental in our scientific theories must be correct for us to have achieved the spectacular feat of landing the Shoemaker space-probe on the asteroid 433 Eros in 2001, as it was hurtling through interstellar space at 25 km/sec about 50 million km distant from earth. Our technological advances have now made it reasonable to imagine a future human civilization in which most of our dreams come true. To achieve it, however, we had better grow up in a hurry. That became clear to me on Dec. 24, 1968, when I heard the crew of Apollo 8 read from the 'Book of Genesis' as they orbited the moon. We are emotionally, and too many are mentally, at the kindergarten stage, yet our toys are the product of the most advanced minds of the species and include nuclear weapons. Is it any wonder that we are collectively frightened?

The arts and the sciences must join forces to show that there is more to celebrate than to lament in this cruel but glorious world. Scientists can do this by exposing

us to models that demonstrate the magic beauty of reality. Poets do it by making us experience the bittersweet paradox of the world and thereby reconciling us to it emotionally. As mature beings, we can then open our minds and rejoice in the many different dimensions of reality. We may even derive a meaning for human existence from the explorations of scientists and poets, and come to see life as a journey of the mind in pursuit of comprehension and compassion.

That exciting journey may never end because we may never get to know “the truth”. For that, we may need a mutation of our brains that would provide us with a couple of extra senses by which to perceive and examine dimensions of the universe we can now only speculate about. Such an evolutionary advance might take a hundred million years more or less. In the meantime, we may as well do the best with what we have: use words to point to what cannot be said!

A true poem takes the reader to the edge of what language can say, points silently at the dark enter of the mystery at the heart of all that exists and creates a moment of truth from which we emerge with a heightened sense of the joys and splendours of existence. This is what I understand Shelley to be saying when he calls upon poets to “*draw into a certain propinquity with the beautiful and the true [the] partial apprehension of the agencies of the invisible world...*”

Let me illustrate the point with a poem from my collection, *Fugitive Horizons*, which, according to the blurb on the back cover, ‘*takes the reader on a mind-blowing journey across the known micro- and macrocosm to the extreme outer edges of space and time*’:

### ***Something to Talk About***

*I've been telling you for over four hundred years  
the stars don't turn around you, they turn you around,  
and still you're giving every day the lie, calling dawn  
sunrise and nightfall sunset. I know you can't see  
straight, but I thought it was because light is bent,  
not because you're at your wits' end. You want more*

*proof? Thank your lucky stars you don't feel the headwind  
as you're spun around this topsy-turvy stellar carrousel.  
At a galactic speed of well over half a million miles per hour  
it'd blow you away. Then you'd have something to talk about.*

*Enjoy a walk in the forest instead. Smell the cedars, listen  
to the waxwings and warblers, watch the deer, touch the moss.  
You're moving in at least four different directions at once:  
one of them will take you right back to where you started.*

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